BY ORDER OF THE
SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 11-2T-41D, VOLUME 3

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Flying Operations

T-41D OPERATIONS PROCEDURES

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFPD 11-2, *Aircraft Rules and Procedures,* and references AFI 11-202, Volume 3, *General Flight Rules.* Along with its complementary **Chapter 5** (Local Operating Procedures), this instruction prescribes standard operational procedures to be used by all pilots operating Air Force T-41D aircraft. This instruction is not applicable to the Air National Guard or Air Force Reserve Command. File a copy of all approved waivers with this instruction. **Attachment 1** contains a glossary of references, abbreviations and acronyms.

See paragraph **1.8.** of this volume for guidance on submitting comments and suggesting improvements to this publication.

The Paperwork Reduction Act of 1974 as amended in 1996 and AFI 33-360, Volume 2, *Forms Management Program*, affect this publication. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 37-123, *Management of Records*, and disposed of in accordance with AFMAN 37-139, *Records Disposition Schedule*.

SUMMARY OF REVISIONS

This revision incorporates changes to paragraph **1.5.** exception to wearing flight gloves while straining fuel. Paragraph **2.1.** clarifying what maps and charts must be on board the aircraft. Paragraph **2.3.4.** clarifies what must be briefed on subsequent flights during the same day. Paragraph **3.1.4.** clarifies propeller safety. Paragraphs **3.2.1.** and **3.13.2.** adds Operations Supervisor to personnel to be briefed. Paragraph **3.3.7.** describes new procedures when wind exceeds 35 knots. Paragraph **3.5.1.** indicates the change in runway length. Paragraph **3.7.2.** changes required approval authority and paragraph **4.2.** clarifies procedures during radio failure. A (|) bar indicates revisions from previous edition.

Chapter 1

GENERAL INFORMATION AND REQUIREMENTS

1.1. Scope. This instruction outlines the procedures applicable to the safe operation of T-41D aircraft. With the complementary references cited, this instruction prescribes standard operational procedures to be used by all pilots operating T-41D aircraft. Aircraft commanders will ensure all occupants of the aircraft comply with this directive.

1.2. Pilot's Responsibility. This instruction, in conjunction with other governing directives, prescribes T-41D procedures under most circumstances, but it is not to be used as a substitute for sound judgment or common sense. The pilot in command (PIC) is ultimately responsible for the safe and effective operation of the aircraft.

1.3. Crew Requirements. The minimum crew for the aircraft is one pilot in the left seat.

1.4. Flight Time, Flight Duty Period, and Medical Restrictions:

1.4.1. Flight duty period will not exceed 12 hours regardless of aircrew composition.

1.4.2. Aircrew members will not be scheduled to fly or perform aircrew duties when taking oral or injected medication, unless an individual medical waiver has been granted by the Command Surgeon. Aircrew members may not self-medicate except according to AFI 48-123, *Medical Examinations and Standards*. The following is a partial list of medications permitted without medical consultation:

1.4.2.1. Skin antiseptics, topical antifungals, 1 percent hydrocortisone cream, or benzoyl peroxide for minor wounds and skin diseases that do not interfere with the performance of flying duties or wear of personal equipment.

1.4.2.2. Single doses of over-the-counter aspirin, acetaminophen or ibuprofen to provide pain relief for minor, self-limiting conditions.

1.4.2.3. Antacids for mild, isolated episodes of indigestion.

1.4.2.4. Hemorrhoidal suppositories.

1.4.2.5. Bismuth subsalicylate for mild cases of diarrhea.

1.4.2.6. Oxymetazoline or phenylephrine nasal sprays when used by aircrew members as “get me downs” in the event of unexpected ear or sinus block during flight. These shall not be used to treat symptoms of head congestion existing prior to flight. (Use renders aircrew members DNIF until cleared for further flight by a flight surgeon.)

1.5. Clothing Requirements. All T-41D aircrew members will wear flight suits and boots. Aircrew members will remove rings and scarves before performing aircrew duties. Flight gloves will be worn during ground operations, except when straining fuel, and all flight operations.

1.6. Deviations. Do not deviate from the procedures and guidance in this publication except when necessary to preserve safety or protect lives.

1.6.1. The PIC has ultimate authority and responsibility for the course of action to be taken.

1.6.2. Report all deviations or exceptions without waiver through channels to the major command (MAJCOM) office of primary responsibility (OPR).

1.7. References. The primary references for T-41D operations are the *T-41D Flight Manual* (Technical Order (T.O.) 1T-41D-1), as well as this instruction. Training units may expand these basic procedures with publications detailing maneuvers and instructional techniques. These publications may be used to augment and expand initial qualification training, but in no case will they be less restrictive.

1.8. Recommended Changes and Waivers:

1.8.1. Submit suggested improvements to this instruction on AF Form 847, **Recommendation for Change of Publication**, through standardization/evaluation (stan/eval) channels. Squadron Stan/Eval will forward approved recommendations to 34 OG/OGV in accordance with AFPD 11-2, paragraph 2.4.1. AF/XO is approval authority for changes and revisions to this instruction.

1.8.2. Unless otherwise directed, MAJCOM/DRU DOs have waiver authority for this publication according to AFPD 11-2. Submit waiver requests in message or memorandum format through Stan/Eval channels. Waiver authority is delegated to unit DOs in specific areas of this document.

Chapter 2

MISSION PLANNING

2.1. Maps and Charts. Local area Sectional and Visual Flight Rules (VFR) Terminal Area Charts ("Class B Airspace charts") must be on board the aircraft. These include the Denver Sectional, Wichita Sectional and Denver VFR Terminal Area Charts. When flying outside the local area, charts covering the route of flight must be on board the aircraft. These charts must be appropriate for the type of mission flown. Low level charts and route books used during flight will be annotated with location and dimensions of class A/B/C/D airspace, civil/military airfields and other potential high density traffic areas (e.g., parachute activity areas and ultra light/hang glider/glider sites, etc.) within 5 nm of any planned VFR route or MTR lateral boundary. Applicable airfield approach control frequencies in the vicinity of class A/B/C/D airspace will be annotated and briefed on all such flights. In addition, annotate and brief the intersection of other VR/IR routes (if applicable) and any other possible areas of conflict.

2.2. Required Documents. The following documents must be on board for flight:

2.2.1. Aircraft weight and balance.

2.2.2. Airworthiness certificate.

2.2.3. Aircraft registration.

2.2.4. AFTO Form 781F, **Aerospace Vehicle Flight Report and Maintenance Document**.

2.3. Briefing and Debriefing. The pilot-in-command (PIC) is responsible for presenting a logical briefing that will promote safe, effective mission accomplishment. In addition, the following guidance applies:

2.3.1. Begin briefings at minimum, 45 minutes before scheduled takeoff.

2.3.2. MAJCOMS will provide briefing guides for use by the PIC. Guides will contain a reference list of items that may apply to particular missions. Items listed may be briefed in any sequence. Specific items not pertinent to the mission need not be covered.

2.3.3. All missions will be debriefed.

2.3.4. On subsequent flights, during the same day, the PIC must brief only those items that have changed from the previous flights or are unique to the planned flight.

2.3.5. Required topics for flight briefings are contained in local **Chapter 5.**

2.4. Flight Crew Information File (FCIF). The FCIF is used to ensure that aircrews receive time-critical information prior to signing out aircraft. Aircrews will ensure they have read the latest FCIF and signed it off prior to signing out aircraft from home station.

Chapter 3

NORMAL OPERATING PROCEDURES

3.1. Preflight:

3.1.1. A qualified T-41D pilot or maintenance personnel must supervise T-41D ground handling. Use extreme caution when ground handling aircraft. Improper procedures may result in structural damage. Do not use the empennage to ground handle or turn the aircraft.

3.1.2. If the Life-Support issued Survival Kit is missing, not sealed, or its inspection is overdue contact the Life Support Office. Squadron Ops Officer approval is required in order to fly without a current, sealed, Life Support supplied Survival Kit.

3.1.3. Visually check fuel quantity prior to every flight. Check fuel samples for impurities and proper type after every refueling and before the first flight of the day. Fuel should be allowed to settle for 30 minutes to an hour to obtain the most valid sampling. If the sample is good, pour back into tank or follow local procedures for sump fuel. If the sample is bad, immediately contact local refueling/maintenance personnel.

3.1.4. Do not walk through or place any part of the body in the arc of the propeller.

3.1.5. Do not hand prop the aircraft. If the pilot confirms the master and ignition switches are off with the ignition key removed, the propeller may be turned to facilitate ground handling or to loosen congealed oil prior to cold starts. This does not constitute “hand-propping.”

3.1.6. Only maintenance personnel may perform jump starts. If the aircraft requires a jump start for the first sortie of the day, record it in the AFTO Form 781A, **Maintenance Discrepancy and Work Document**. If the aircraft will not start without a jump-start on any subsequent flight, abort the aircraft and enter this in the AFTO Form 781A.

3.1.7. Ensure a fire bottle is in the vicinity prior to engine start.

3.1.8. Ensure all aircraft surfaces are clear of frost, ice, and snow prior to flight.

3.1.9. When starting behind another aircraft, ensure a minimum of 10 ft nose-to-tail separation.

3.2. After Engine Start:

3.2.1. If the engine fails after warm-up for no apparent reason, abort the aircraft. Enter all engine failures or abnormalities on the AFTO Form 781A to include the total time the engine ran. Debrief the failure to the Flying Safety Officer, maintenance, and Operations Supervisor.

3.2.2. Do not on-load or off-load personnel or equipment while the engine is running.

3.3. Ground and Taxi Operations:

3.3.1. A qualified T-41D pilot will perform all engine starts. Exception: students upgrading in the T-41D may start the engine.

3.3.2. Personnel not actively involved in refueling will remain at least 50 ft away from an aircraft refueling operation. In addition, do not operate the engine, taxi, or radiate electromagnetic energy (cell phone, radio, DME, or transponder operation) within the 50 ft safety zone.

3.3.3. Pilots will ground handle the T-41D whenever minimum wingtip clearances will be compromised during taxi. Twenty-five feet is the minimum wingtip clearance. Exceptions: A 10 ft minimum applies if:

3.3.3.1. A wingwalker monitors taxi clearance, or

3.3.3.2. A locally based aircraft uses a taxi line to avoid permanent structures, local aircraft in designated parking spots or support equipment in designated areas.

3.3.4. Maintain at least two ship-lengths behind light single-engine aircraft. Maintain at least five ship lengths (of the preceding aircraft) behind multi-engine or jet aircraft and 500 ft behind taxiing helicopters.

3.3.5. Use proper tailwind/headwind/crosswind control inputs while taxiing. Use caution to avoid upsets due to strong jet/prop blast from larger aircraft.

3.3.6. Pilots will avoid taxiing through snowdrifts and significant accumulations of ice. To avoid damage to the propeller, plan to taxi around gravel and puddles of water and avoid high power settings on the ground (greater than 1500 RPM) when possible. When damage to the prop tips is likely, pilots will maintain full aft elevator control unless wind conditions dictate otherwise.

3.3.7. When the wind exceeds 35 knots, turn the aircraft into the wind and cease all taxi operations. If a tow is required, shutdown the engine, set the parking brake and wait for the tow to arrive. The tow should be coordinated through the 557 FTS Ops/Sup. If aircraft control is lost during taxi, shut down the engine immediately.

3.4. Engine Run-Up. Accomplish engine run-ups before every flight. Do not perform an engine run-up while an aircraft is stopped or taxiing in front of your aircraft. Do not taxi in front of another aircraft performing an engine run-up.

3.5. Takeoff.

3.5.1. T-41D operations require prepared surface runways. Minimum runway length is 2500 ft or the sum of the takeoff and landing rolls whichever is greater. Intersection takeoffs are approved provided available runway length meets this requirement.

3.5.2. Minimum runway condition reading (RCR) for takeoff is 12. Do not takeoff if existing crosswind component exceeds RCR.

3.5.3. The maximum wind for takeoffs and touch and goes is 26 knots total, 15 knots crosswind components. With flaps greater than 20 degrees, 10 knots is the maximum crosswind component.

3.5.4. The maximum density altitude for T-41D takeoffs with back seat passengers is 9,500 ft.

3.5.5. Do not take off over any raised barrier (for example, MA-1A, BAK-15). Avoid rolling over any cables or arresting gear during taxi or takeoff.

3.6. Minimum Altitudes. Minimum en route altitude is 1000 ft AGL. Minimum altitude during a Simulated Forced Landing (SFL) is 200 ft AGL except to prepared surface runways.

3.7. Weather Minimums. VFR flight in weather near minimums presents increased risks even for experienced pilots. Pilots will use judgment to land or reverse course rather than fly in marginal conditions.

Although alternates are not strictly required under VFR, when forecast winds, visibility, or ceiling reach or exceed limits, pilots will carefully consider routes and fuel requirements for possible diversions.

3.7.1. The minimum ceiling and visibility for VFR flight is 1500 ft and 3 miles.

3.7.2. Flight in forecast severe turbulence requires 34 OG/CC approval. If severe turbulence is reported, cease operations in the affected area.

3.8. Clearing. Pilots must understand that many VFR pilots use uncontrolled training areas and surrounding airspace. The concept of see and avoid is critical.

3.9. Transfer of Aircraft Control. Both pilots must know at all times who has control of the aircraft. In all cases, the pilot assuming control of the aircraft will state "I have the aircraft" and will shake the yoke. The pilot relinquishing control will state: "You have the aircraft." Once assuming control of the aircraft, maintain control until relinquishing it as stated above.

3.10. Fuel Requirements. Plan all missions to land with a minimum of 1 hour of usable fuel remaining. Declare minimum fuel to an appropriate traffic control or flight following agency when it becomes apparent an aircraft will land with less than the following reserves.

3.10.1. Minimum fuel–9 gallons usable fuel.

3.10.2. Emergency fuel–6 gallons usable fuel or when both tanks indicate less than 1/8 full, whichever occurs first.

3.11. Landing Restrictions:

3.11.1. Minimum RCR for landing is 12. Do not land if crosswind component exceeds RCR.

3.11.2. The maximum wind for landing is 35 knots total or a 15 knot crosswind component. With flaps greater than 20 degrees, 10 knots is the maximum crosswind component.

3.11.3. Do not land over any raised web barrier (for example, MA-1A, BAK-15). Avoid landing on or rolling over any cables or barriers.

3.12. Functional Check Flights (FCF). Perform FCFs IAW local directives.

3.13. Post Flight. Pilots will clear the landing runway prior to performing the After Landing check.

3.13.1. Pilots will tie down or hangar the aircraft if it will be left unattended. Always chock the aircraft in an appropriate parking spot. Crews remaining off-station overnight will carry chocks, tie-downs, and extra engine oil.

3.13.2. Complete the AFTO Form 781F and notify maintenance of discrepancies. Inform maintenance, QAE, the Flight Safety Office and the Operations Supervisor of any ground or air aborts. If off station, contact the Operations Supervisor.

3.14. Flights With Inoperative Equipment. All installed systems and equipment must be functional unless operations are authorized by **Table 3.1.** below or waived by the OG/CC. Local area flights are sorties, which remain within unit-defined local training areas.

Table 3.1. Operational Equipment and Systems.

Item	Equipment	Remarks
Fuel System:		
1	MINIFLOW fuel computer	Not required for VFR flights if tanks are filled before each takeoff and sortie durations are limited to 2.5 hours.
Landing Gear:		
1	Tires	Valve stem caps not required.
Avionics:		
1	Headset and Intercom	Required for all crewmembers.
2	Transponder	Required to depart home station. VFR flight permitted to reposition for repairs (comply with FAR 91.215).
3	VHF Communication Radios	One radio must transmit and receive.
4	VOR receivers/OBS displays/DME	Not required for local area VFR flights
5	ADF and Marker Beacon	Not required for VFR flights.
6	GPS receiver, display, and remote OBS	Not required for local area VFR flights.
Instrumentation:		
1	Instrument and panel lights	Not required for day flight.
2	Turn Coordinator and Inclinometer	Not required for day VFR flight.
Airframe and Cabin:		
1	Seat Belts/Shoulder Harness	Lap belts and/or shoulder harnesses may be inoperative for unoccupied seats.
2	Cabin Heat	The cabin heat control need not function if secured in the closed position
Electrical System:		
1	Multifunction G-Meter/Voltmeter	Not Required.
2	Landing/Taxi Lights	One bulb may be inoperative.
3	Navigation Lights	Not required for day operation.
4	Pitot Heat	Not required for VFR unless in visible moisture or above the freezing level.

Chapter 4

ABNORMAL OPERATING PROCEDURES

4.1. General. Follow the procedures in this chapter when other than normal circumstances occur. These procedures do not supersede procedures contained in the flight manual. The pilot in command is primarily responsible for handling in-flight emergencies. Pilots should take whatever action is necessary to safely terminate the emergency. The additional pilot (if applicable) will confirm all critical action procedures have been accomplished and provide checklist assistance at the request of the pilot in command.

4.1.1. Refer to your checklist and IFG for additional guidance. The situation will dictate whether you should return to the home airfield or land at another suitable airfield. Deviate from normal return routes and altitudes if the situation warrants. When deviating, inform the controlling agency, if possible.

4.2. Radio Failure. For a no radio (NORDO) recovery, the procedures in AFI 11-205, *Aircraft Cockpit And Formation Flight Signals,* and Flight Information Publications (FLIP) apply.

Chapter 5

LOCAL OPERATING PROCEDURES

5.1. Use of This Chapter. This chapter is reserved for unit local operating procedures. Units may also publish an In-Flight Guide containing the same information in condensed format to be carried in-flight along with the aircraft checklist. If this chapter is incorporated in another base publication (instruction, supplement, etc.), a single page insert will be used referencing its location or the entire publication will be inserted, as appropriate.

5.2. Guidance. These procedures will not be less restrictive than those contained elsewhere in this instruction. Unnecessary repetition of guidance provided in other established directives should be avoided. However, reference to those directives is acceptable when it serves to facilitate location of information necessary for local operating procedures.

5.3. Procedures for Publishing. When publishing **Chapter 5**, units will forward copies to the MAJCOM and appropriate subordinate agencies who will review it and return their comments or required changes back to the units, as appropriate. If a procedure is determined to be applicable to all T-41D units, it will be incorporated into the basic instruction.

5.4. Organization of Chapter 5. The local **Chapter 5** and In-Flight Guide will be organized in the following manner and will include, at a minimum, the following information:

5.4.1. Section A. Introduction

5.4.2. Section B. General Policy.

5.4.3. Section C. Ground Operations.

5.4.4. Section D. Flight Operations.

5.4.5. Section E. Abnormal Procedures.

5.4.6. Attachments. Illustrations.

5.5. Procedures for Inclusion. This chapter will include procedures for the following, as applicable:

5.5.1. Command and control.

5.5.2. Aircrew Publication Requirements.

5.5.3. Diversion instructions and fuel requirements

5.5.4. Local weather procedures.

5.5.5. Cross-country procedures

5.5.6. Unit standards (optional).

5.6. Forms Adopted. AF Form 847, *Recommendation for Change of Publication;* AFTO Form 781A, *Maintenance Discrepancy and Work Document;* AFTO Form 781F, *Aerospace Vehicle Flight Report and Maintenance Document.*

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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 11-2**,** *Aircraft Rules and Procedures*

AFI 11-2T-41D, Volume 1, *T-41D Aircrew Training*

AFI 11-202, Volume 3, *General Flight Rules*

AFI 11-205, *Aircraft Cockpit And Formation Flight Signals*

AFI 33-360, Volume 2, *Forms Management Program*

AFMAN 37-123, *Management of Records*

AFMAN 37-139, *Records Disposition Schedule*

AFI 48-123, *Medical Examinations and Standards*

FAR § 91.215, *ATC Transponder and Altitude Reporting Equipment and Use*

Joint Publication 1-02*, DoD Dictionary of Military and Associated Terms*

T.O. 1T-41DD-1, *USAF T-41DD Flight Manual*

Abbreviations and Acronyms

ADF—Automatic Direction Finding

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFORMS—Air Force Operations Resource Management System

AFTO—Air Force Technical Order

AFPD—Air Force Policy Directive

AGL—Above Ground Level

CC—Commander

DME—Distance Measuring Equipment

DO—Director of Operations

DRU—Direct Reporting Unit

ETA —Estimated Time of Arrival

FAR—Federal Aviation Regulation

FCF—Functional Check Flight

FCIF—Flight Crew information File

FLIP—Flight Information Publications

FT—Feet

GPS—Global Positioning System

HQ—Headquarters

IFG—In-Flight Guide

IFR—Instrument Flight Rules

IP—Instructor Pilot

MAJCOM—Major Command

MTR—Military Training Route

NM—Nautical Miles

NORDO—No Radio

NOTAM—Notice To Airman

OBS—Omni Bearing Selector

OG—Operations Group

OGV—Operations Group Standardization/Evaluation

OPR—Office of Primary Responsibility

PDO—Publishing Distribution Office

PIC—Pilot in Command

RCR—Runway Condition Reading

RPM—Revolutions per Minute

SFL—Simulated Forced Landing

SOF—Supervisor of Flying

STAN/EVAL—Standardization/Evaluation

T.O.—Technical Order

VFR—Visual Flight Rules

VHF—Very High Frequency

VOR—VHF Omnidirectional Range

VR/IR—VFR Routes/IFR Routes